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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/433,062	11/03/1999	Thomas A. Skupien	MEMS-038	2000

7590 04/16/2004

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EXAMINER

ROY, SIKHA

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 04/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/433,062

Applicant(s)

SKUPIEN, THOMAS A.

Examiner

Sikha Roy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The Amendment, filed on April 6, 2004 has been entered and is acknowledged by the Examiner.

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13,14,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 5,394,054 to Chen et al. in view of U. S. Patent 5,990,610 to Matsumoto et al.

Regarding claims 13,14 and 16 Chen et al. disclose (column 4 lines 48-67, column 2 lines 15-34, Fig. 4) a cathode ray tube 78 including a neck portion and a funnel portion, comprising of a plurality of conductive stem pins 36 at the end of the neck portion and electron gun 60 positioned in the neck including triode comprising a heated cathode 62 for emitting electrons, a biasing electrode G1 and an accelerating electrode G2 forming the electron beam and plurality of electrodes (grids G3, G4 and G5) for focusing electron beam 73. The second accelerator electrode (G3 grid 68), a cylindrical element smaller in diameter than the neck is connected to anode potential

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V_A . The focus electrode (G4 grid 70) is coupled to and charged by a focus voltage V_F , where $V_F < V_A$. The second accelerating electrode and the focus electrode together comprise the first lens. The final accelerator electrode (G5 grid 72 connected to the conductive coating by spring 48 Fig.4) comprising a conductive coating 46 disposed on the inner surface of the neck and funnel of the glass envelope is connected to high anode voltage V_A via the anode button 44 in the neck. The second lens is thus formed between the focus electrode and the internal conductive coating connected to anode potential.

Chen et al. disclose (column 2 lines 20-25) the neck portion of CRT fitted to a base member comprising plurality of conducting pins 36. Pins extend through an end and are electrically coupled to various electrodes. Pins are further coupled to power supply for providing voltages V_F , V_A . Chen et al. do not disclose the focus electrode connected to low voltage stem pin and accelerator electrode connected to an isolated stem pin. It is well known in the art as is evidenced by Matsumoto et al. (column 8 lines 42-45 Fig. 5A) that the plurality of stem pins include a high voltage stem pin 3B and rest the lower voltage stem pins 3A, 3C. It would have been obvious to one having ordinary skill in the art at the time of invention to connect the accelerating electrode to high voltage V_A through the isolated high voltage stem pin and focusing electrode to focus voltage V_F through the low voltage stem pin.

Claims 15, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 5,394,054 to Chen et al. in view of U. S. Patent 5,990,610 to Matsumoto et al. and further in view of applicant's admitted prior art.

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Claim 15 differs from Chen et al. and Matsumoto et al. in that Chen and Matsumoto do not exemplify the anode potential being less than or equal to 12 KV.

In the section of description of the related art applicant discloses (page 4 lines 24-28) einzel guns with short focal length and large deflection angle having anode potential less than 12 KV are suited for low-voltage applications and are used for helmet-mounted and hand-held displays.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the anode potential of the CRT of Chen and Matsumoto et al. less than or equal to 12 kilovolts as suggested by applicant's admitted prior art for using the einzel gun for low voltage applications.

Claim 17 essentially recites the same limitation as of claim 15 and hence is rejected for the same reason.

Claim 18 recites the same limitations of claims 16 and 17 and hence is rejected for the same reasons (see rejection of claims 16 and 17).

Claim 19 recites the limitations of an einzel lens which are same as of claim 13, the einzel lens comprising of first lens with second accelerator electrode and the focus electrode and second lens between the focus electrode and the internal conductive coating as disclosed by Chen et al. Hence claim 19 is rejected for the same reason as of claim 13.

Claims 20 and 21 essentially recite the same limitations as of claims 13 and 14 respectively and hence are rejected for the same reasons.

Response to Arguments

Applicant's arguments filed January 6, 2004 with respect to claims 13,16 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's previous argument that Chen and Matsumoto do not teach "a second lens between the focus electrode and a continuous internal conductive coating on the neck and the funnel, wherein the internal conductive coating is connected to anode potential through an anode button in the neck" the Examiner respectfully disagrees. The Examiner notes that Chen discloses (column 3 lines 65,66 and column 4 lines 63-65) the final (second) accelerating electrode (grid G5) is coupled to and charged by anode voltage V_A provided via the anode button 44 and conductive coating 46. Hence the conductive coating 46 engaged in the convergence cage 54 and connected to the accelerating electrode grid 72 is at the same accelerating anode potential and hence the second lens is indeed between the focus electrode and the internal conductive coating connected to the anode potential. The focusing of the second lens occurs because of the potential difference between the focus electrode 70 and the accelerating electrode comprising the electrode 72 (grid G5), convergence cage 54 and the conductive coating 46.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

S.R.

Sikha Roy
Patent Examiner
Art Unit 2879

*Joseph Williams
Joseph Williams*